

WHAT IS CLAIMED IS:

1. An apparatus for detecting position information of a moving object, the apparatus comprising:

5 a transponder installed on a predetermined location of a road, for storing position information associated with the installed location;

a communication module mounted to a moving object, for emitting an RF (Radio Frequency) signal toward a road surface, and for receiving position information associated with the transponder's installation location from the transponder located within a predetermined distance from the moving object
10 using the RF signal; and

a reader for receiving position information associated with the transponder's installation location from the communication module, and for reading a current position of the moving object.

2. The apparatus as set forth in claim 1,
15 wherein the transponder includes

a memory for storing position information associated with the transponder's installation location,

a controller driven by the RF signal created from the communication module, for reading position information from the memory, and

20 a RF block for receiving the RF signal from the communication module, transmitting the received RF signal to the controller, for receiving position information from the controller, and for transmitting the received position information to the communication module.

3. The apparatus as set forth in claim 2,

wherein the memory stores ID (Identifier) information of individual transponders, position information associated with installation positions of the transponders, and road information associated with the installation positions of the transponders.

- 5 4. The apparatus as set forth in claim 1,
 wherein the transponder is one of a plurality of transponders for storing position information associated with the installed location, and
 wherein the plurality of transponders are installed at center parts of individual traffic lanes at regular intervals.

- 10 5. The apparatus as set forth in claim 1,
 wherein the communication module is adapted as a plurality of communication modules, one communication module being mounted to the front of the moving object, and another communication module being mounted to the rear of the moving object.

- 15 6. The apparatus as set forth in claim 1,
 wherein the reader stores position information received from the communication module and read time information for every position, and calculates moving speeds for every traveling interval of the moving object upon receiving a distance difference and a read time difference corresponding to
20 individual position information.

7. The apparatus as set forth in claim 1,
 wherein the reader includes
 a buffer for storing position information received from the communication

module,

a time generator for generating current time information, and transmitting the current time information to the buffer, and

5 a controller for receiving position information and time information for every position information from the buffer, detecting real-time position information of the moving object using the received position information, and calculating a moving speed of the moving object using the position information and the time information for every position information.

8. The apparatus as set forth in claim 1,
10 wherein the reader transmits the read current position information to an external device.

9. The apparatus as set forth in claim 1,
wherein the position information includes current position information and corresponding road condition information.

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